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22850 7590 01/10/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER DWIVEDI, MAHESH H	
			ART UNIT 2168	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/664,189

Applicant(s)

THORPE, JONATHAN RICHARD

Examiner

Mahesh H. Dwivedi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/28/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 09/17/2003, 02/09/2004, and 03/28/2006 have been received, entered into the record, and considered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-19 and 21-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The examiner specifically points to “**client system having logic**” as being directed towards nonstatutory subject matter.

The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a

composition of matter. As such, they fail to fall within a statutory category. They are, at best, function descriptive material *per se*.

5. Claims 23-26 are rejected under 35 U.S.C. 101 as being directed non-statutory subject matter. The language of the claim raises a question as to whether the claim is directed merely to an environment or machine which would result in a practical application producing a concrete useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Software or program can be stored on a medium and/or executed by a computer. In other words, software must be computer readable. The use of computer is not evident in these claims.

6. **For your reference, below is a section from MPEP 2105 :**

(a) Functional Descriptive Material: "Data Structures" Representing Descriptive Material Per Se or Computer Programs Representing Computer Listings Per Se

Data structures not claimed as embodied in computer-readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed

as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions. Computer programs are often recited as part of a claim. Office personnel should determine whether the computer program is being claimed as part of a otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim. The same result occurs when a computer program is used in a computerized process where the computer executes the instructions set forth in the computer program. Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material per se and hence nonstatutory.

Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and Office personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material. When a computer program is claimed in a process where the computer is executing the computer program's

instructions, Office personnel should treat the claim as a process claim. See paragraph IV.B.2(b), below. When a computer program is recited in conjunction with a physical structure, such as a computer memory, Office personnel should treat the claim as a product claim.

7. Claim 26 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 26 appears to represent nonfunctional descriptive material. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. See

also In re Johnson, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). Thus, nonstatutory music is not a computer component and it does not become statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

Claim 26 is further rejected under 35 U.S.C 101 because the claimed invention is directed to the non-statutory subject area of electro-magnetic signals, carrier waves.

Claim 26 recites the limitation "**transmission medium**". The examiner interprets "transmission medium" as a machine comprising carrier waves. Claim 26 recites nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14.

Moreover, a claim reciting a signal encoded with functional descriptive material does not fall within any of the categories of patentable subject matter set forth in § 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material. "The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Corning v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform

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functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." *Diamond v. Chakrabarty*, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11, 8 USPQ 131, 133 (1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See *American Disappearing Bed Co. v. Arnaelsteen*, 182 F. 324, 325 (9th Cir. 1910), *cert. denied*, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. *Lorillard v. Pons*, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in *American Fruit Growers* when it passed

the 1952 Patent Act. A manufacture is also defined as the residual class of product. 1 Chisum, § 1.02[3] (citing W. Robinson, The Law of Patents for Useful Inventions 270 (1890)). A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

8. To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four categories of invention.

Specification

9. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The term "providing medium" in claim 24 does not have adequate support in the specification.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-4, 6, 8-17, and 20-26 are rejected under 35 U.S.C. 102(b) as being anticipated by **Kohonen et al.** (Article entitled "Self Organization of a Massive Document Collection", dated May 2000).

12. Regarding claim 1, **Kohonen** teaches a system comprising:

(A) a data network (Page 583);

(B) an information retrieval client system connected to said data network (Page 583);

(C) and one or more information item storage nodes connected to the data network (Page 582);

(D) in which: (i) each storage node comprises a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network (Pages 582-584); and

(E) said client system comprises logic, responsive to data received from said indexer of a storage node, for generating a node position in respect of each information item represented by said received data (Pages 582-584, Figures 5-6).

The examiner notes that **Kohonen** teaches "**a data network**" as "The document map is presented to the user as a series of HTML pages that enable the exploration of the map" (Page 583, Section E: Exploration of the Document Map). The examiner further notes that **Kohonen** teaches "**an information retrieval client system**

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connected to said data network" as "The document map is presented to the user as a series of HTML pages that enable the exploration of the map" (Page 583, Section E: Exploration of the Document Map) and "The interface to the map has been provided with a form field into which the user can type a query, or a description of interest" (Page 584, Section E: Exploration of the Document Map). The examiner further notes that **Kohonen** teaches **"and one or more information item storage nodes connected to the data network"** as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map). The examiner further notes that **Kohonen** teaches **"in which: (i) each storage node comprises a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network"** as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map), "This time includes finding the keywords to label the map, forming the WWW-ages that are used in exploring the map, and indexing the map units for keyword searches" (Page 583, Section C: Formation of the Document Map), and "Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map" (Page 584, Section 2: Keyword Search). The examiner further notes that **Kohonen** teaches

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“said client system comprises logic, responsive to data received from said indexer of a storage node, for generating a node position in respect of each information item represented by said received data” as “Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map” (Page 584, Section 2: Keyword Search).

Regarding claim 2, **Kohonen** further teaches a system comprising:

- A) in which said indexer at each storage node is operable to transmit data to said client system to said client system in batches (Pages 581, 583-584, Figures 5-6);
- B) each batch comprising at least data derived from some of those information items stored at that storage node for which data has not previously been transmitted to said client system (Pages 581, 583-584, Figures 5-6).

The examiner notes that **Kohonen** teaches **“in which said indexer at each storage node is operable to transmit data to said client system to said client system in batches”** as “The document map is presented to the user as a series of HTML pages that enable the exploration of the map” (Page 583, Section E: Exploration of the Document Map), “The interface to the map has been provided with a form field into which the user can type a query, or a description of interest” (Page 584, Section E: Exploration of the Document Map), and “Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map” (Page 584, Section 2: Keyword Search). The examiner further notes that **Kohonen** teaches **“each batch comprising at least data derived from some of**

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those information items stored at that storage node for which data has not previously been transmitted to said client system" as "For the largest WEBSOM map made so far we selected a database of 6,840,568 patent abstracts available in electronic form and written in English" (Page 581, Section V: The Document Map of All Electronic Patent Abstracts). The examiner further notes that it is clear that **Kohonen's** method delivers new content that a particular user has never viewed before.

Regarding claim 3, **Kohonen** further teaches a system comprising:

A) in which each batch of data comprises data derived from those information items stored at that storage node for which data has not previously been transmitted to said client system (Pages 581, 583-584, Figures 5-6).

The examiner notes that **Kohonen** teaches "**in which each batch of data comprises data derived from those information items stored at that storage node for which data has not previously been transmitted to said client system**" as "For the largest WEBSOM map made so far we selected a database of 6,840,568 patent abstracts available in electronic form and written in English" (Page 581, Section V: The Document Map of All Electronic Patent Abstracts). The examiner further notes that it is clear that **Kohonen's** method delivers new content that a particular user has never viewed before.

Regarding claim 4, **Kohonen** further teaches a system comprising:

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A) in which said indexer at each storage node is operable to transmit to said client system a batch of data derived from information items stored at that storage node in response to an information retrieval operation at said client system (Pages 583-584, Figures 5-6).

The examiner notes that **Kohonen** teaches “**in which said indexer at each storage node is operable to transmit to said client system a batch of data derived from information items stored at that storage node in response to an information retrieval operation at said client system**” as “The document map is presented to the user as a series of HTML pages that enable the exploration of the map” (Page 583, Section E: Exploration of the Document Map), “The interface to the map has been provided with a form field into which the user can type a query, or a description of interest” (Page 584, Section E: Exploration of the Document Map), and “Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map” (Page 584, Section 2: Keyword Search).

Regarding claim 6, **Kohonen** further teaches a system comprising:

A) in which said data network is an internet network (Page 583).

The examiner notes that **Kohonen** teaches “**in which said data network is an internet network**” as “The document map is presented to the user as a series of HTML pages that enable the exploration of the map” (Page 583, Section E: Exploration of the Document Map).

Regarding claim 8, **Kohonen** further teaches a system comprising:

- A) in which said information items are at least partially textual (Page 581); and
- B) said data derived from a stored information item comprises the whole of said textual content of that information item (Page 581).

The examiner notes that **Kohonen** teaches “**in which said information items are at least partially textual**” as “From the raw patent abstracts we first extracted the titles and the texts for further processing” (Page 581, Section A: Preprocessing). The examiner further notes that **Kohonen** teaches “**said data derived from a stored information item comprises the whole of said textual content of that information item**” as “From the raw patent abstracts we first extracted the titles and the texts for further processing. We then removed nontextual information” (Page 581, Section A: Preprocessing).

Regarding claim 9, **Kohonen** further teaches a system comprising:

- A) in which said data derived from a stored information item comprises textual data indicative of said content of the stored information item (Page 583, Figure 6).

The examiner notes that **Kohonen** teaches “**in which said data derived from a stored information item comprises textual data indicative of said content of the stored information item**” as “When clicking a point on the map display with a mouse, links to the document database enable reading the contents of the documents” (Page 583, Section E: Exploration of the Document Map). The examiner further notes that

Figure 6 clearly shows that titles of the documents are shown to a user, in order to present an abstract of what that document is.

Regarding claim 10, **Kohonen** further teaches a system comprising:

A) in which said client system comprises a graphical user interface for displaying a representation of at least some of said nodes as a two-dimensional display array of display points within a display area on a user display (Pages 574, and 583, Figures 5-6).

The examiner notes that **Kohonen** teaches “**in which said client system comprises a graphical user interface for displaying a representation of at least some of said nodes as a two-dimensional display array of display points within a display area on a user display**” as “documents are presented as points on a two-dimensional (2-D) plane and the geometric relations of the image points of the documents represent their similarity relations” (Page 574).

Regarding claim 11, **Kohonen** further teaches a system comprising:

A) in which said client system comprises: (i) a user control for defining a two-dimensional region of said display area (Page 584, Figures 5-6); and
B) a detector for detecting those display points lying within said two-dimensional region of said display area (Pages 583-584, Figure 6).

The examiner notes that **Kohonen** teaches “**in which said client system comprises: (i) a user control for defining a two-dimensional region of said display**

area” as “keyword search” (Page 584). The examiner further notes that Figure 6 describes an interface which displays retrieved search results based on the search constraint. The examiner further notes that **Kohonen** teaches “**a detector for detecting those display points lying within said two-dimensional region of said display area**” as “An example of performing a keyword search is depicted in Fig. 6” (Page 584, Section: Keyword Search). The examiner further notes that it is clear that Figure 6 of **Kohonen** displays a search results from a user query by depicting a 2-d grid.

Regarding claim 12, **Kohonen** further teaches a system comprising:

A) in which said graphical user interface is operable to display a list of data representing information items, being those information items mapped onto nodes corresponding to display points displayed within said two-dimensional region of said display area (Pages 583-584, Figures 5-6).

The examiner notes that **Kohonen** teaches “**in which said graphical user interface is operable to display a list of data representing information items, being those information items mapped onto nodes corresponding to display points displayed within said two-dimensional region of said display area**” as “This time includes finding the keywords to label the map, forming the WWW-pages that are used in exploring the map, and indexing the map units for keyword searches” (Page 583, Section C: Formation of the Document Map) and “When clicking a point on the map display with a mouse, links to the document database enable reading the contents

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of the documents" (Page 583, Section E: Exploration of the Document Map). The examiner further notes that Figure 5 clearly shows an interface with nodes mapping different documents.

Regarding claim 13, **Kohonen** further teaches a system comprising:

- A) in which said client system comprises a user control for choosing one or more information items from said list (Pages 583-584, Figures 5-6); and
- B) said graphical user interface being operable to alter manner of display within said display area of display points corresponding to selected information items (Pages 583-584, Figures 5-6)

The examiner notes that **Kohonen** teaches "**in which said client system comprises a user control for choosing one or more information items from said list**" as "This time includes finding the keywords to label the map, forming the WWW-pages that are used in exploring the map, and indexing the map units for keyword searches" (Page 583, Section C: Formation of the Document Map) and "When clicking a point on the map display with a mouse, links to the document database enable reading the contents of the documents" (Page 583, Section E: Exploration of the Document Map). The examiner notes that **Kohonen** teaches "**said graphical user interface being operable to alter manner of display within said display area of display points corresponding to selected information items**" as "This time includes finding the keywords to label the map, forming the WWW-pages that are used in exploring the map, and indexing the map units for keyword searches" (Page 583,

Section C: Formation of the Document Map) and "When clicking a point on the map display with a mouse, links to the document database enable reading the contents of the documents" (Page 583, Section E: Exploration of the Document Map). The examiner further notes that Figure 6 clearly shows the ability to alter the interface by zooming in (see "Click any area on the map to get a zoomed view!").

Regarding claim 14, **Kohonen** further teaches a system comprising:

A) in which said data derived from an information item includes an identification of said storage location of that information item (Pages 574 and 583, Figures 5-6).

The examiner notes that **Kohonen** teaches "**in which said data derived from an information item includes an identification of said storage location of that information item**" as "This time includes finding the keywords to label the map, forming the WWW-pages that are used in exploring the map, and indexing the map units for keyword searches" (Page 583, Section C: Formation of the Document Map) and "When clicking a point on the map display with a mouse, links to the document database enable reading the contents of the documents" (Page 583, Section E: Exploration of the Document Map).

Regarding claim 15, **Kohonen** further teaches a system comprising:

A) in which said identification comprises a universal resource indicator (URI) (Pages 574 and 583, Figures 5-6).

The examiner notes that **Kohonen** teaches **“in which said identification comprises a universal resource indicator (URI)”** as “This time includes finding the keywords to label the map, forming the WWW-pages that are used in exploring the map, and indexing the map units for keyword searches” (Page 583, Section C: Formation of the Document Map) and “When clicking a point on the map display with a mouse, links to the document database enable reading the contents of the documents” (Page 583, Section E: Exploration of the Document Map).

Regarding claim 16, **Kohonen** teaches a storage node comprising:

- A) said client system being connectable via a data network to one or more information item storage nodes each comprising a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network (Pages 582-584).
- B) the client system comprising logic, responsive to data received from said indexer of a storage node, for generating a node position in respect of each information item represented by said received data (Pages 582-584, Figures 5-6).

The examiner notes that **Kohonen** teaches **“said client system being connectable via a data network to one or more information item storage nodes each comprising a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network”** as “With the newest versions of our programs the whole process of computation of the document map takes

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about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map), "This time includes finding the keywords to label the map, forming the WWW-ages that are used in exploring the map, and indexing the map units for keyword searches" (Page 583, Section C: Formation of the Document Map), and "Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map" (Page 584, Section 2: Keyword Search). The examiner further notes that **Kohonen** teaches "**the client system comprising logic, responsive to data received from said indexer of a storage node, for generating a node position in respect of each information item represented by said received data**" as "Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map" (Page 584, Section 2: Keyword Search)

Regarding claim 17, **Kohonen** teaches an information retrieval client system comprising:

(A) said storage node being connected via a data network to an information retrieval client system having logic (Page 583);

(B) responsive to data received from said storage node, for generating a node position in respect of each information item represented by said received data (Pages 582-584, Figures 5-6).;

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(C) the storage node comprising: (i) a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network (Pages 582-584).

The examiner notes that **Kohonen** teaches “**said storage node being connected via a data network to an information retrieval client system having logic**” as “The document map is presented to the user as a series of HTML pages that enable the exploration of the map” (Page 583, Section E: Exploration of the Document Map) and “The interface to the map has been provided with a form field into which the user can type a query, or a description of interest” (Page 584, Section E: Exploration of the Document Map). The examiner further notes that **Kohonen** teaches “**responsive to data received from said storage node, for generating a node position in respect of each information item represented by said received data**” as “Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map” (Page 584, Section 2: Keyword Search). The examiner further notes that **Kohonen** teaches “**the storage node comprising: (i) a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network**” as “With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB” (Page 582, Section C: Formation of the Document Map), “This time includes finding the keywords to label the map, forming the WWW-ages that are used in

exploring the map, and indexing the map units for keyword searches" (Page 583, Section C: Formation of the Document Map), and "Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map" (Page 584, Section 2: Keyword Search).

Regarding claim 20, **Kohonen** teaches a information retrieval method comprising:

- (A) one or more information item storage nodes connected to said data network (Page 582);
- B) said method comprising the steps of: (i) each storage node storing a plurality of information items (Page 581);
- C) each storage node transmitting data derived from information items stored at that storage node to said client system via said data network (Pages 583-584, Figures 5-6); and
- D) said client system, responsive to data received from an indexer of a storage node, generating a node position in respect of each information item represented by said received data (Pages 582-584, Figures 5-6).

The examiner further notes that **Kohonen** teaches "**one or more information item storage nodes connected to said data network**" as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map). The

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examiner further notes that **Kohonen** teaches **“said method comprising the steps of:**

(i) each storage node storing a plurality of information items” as “For the largest

WEBSOM map made so far we selected a database of 6,840,568 patent abstracts

available in electronic form and written in English” (Page 581, Section V: The

Document Map of All Electronic Patent Abstracts) and “From the raw patent abstracts

we extracted the titles and the texts for further processing” (Page 581, Section A:

Preprocessing). The examiner further notes that **Kohonen** teaches **“each storage**

node transmitting data derived from information items stored at that storage node

to said client system via said data network” as “Given a search description, the

matching units are found from the index and the best matches are returned and

displayed as circles on the map” (Page 584, Section 2: Keyword Search). The

examiner further notes that **Kohonen** teaches **“said client system, responsive to**

data received from an indexer of a storage node, generating a node position in

respect of each information item represented by said received data” as “With the

newest versions of our programs the whole process of computation of the document

map takes about six weeks on a six-processor SGI O2000 computer...The amount of

main memory required was about 800 MB” (Page 582, Section C: Formation of the

Document Map), “This time includes finding the keywords to label the map, forming the

WWW-ages that are used in exploring the map, and indexing the map units for keyword

searches” (Page 583, Section C: Formation of the Document Map), and “Given a

search description, the matching units are found from the index and the best matches

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are returned and displayed as circles on the map" (Page 584, Section 2: Keyword Search).

Regarding claim 21, **Kohonen** teaches a method comprising:

(A) said storage node being connectable via a data network to an information retrieval client system having logic, responsive to data received from the storage node, for generating a node position in respect of each information item represented by the received data (Pages 582-584, Figures 5-6);

B) said method comprising the steps of: (i) storing a plurality of information items (Page 581); and

C) transmitting data derived from information items stored at that storage node to the client system via the data network (Pages 582-584, Figures 5-6).

The examiner further notes that **Kohonen** teaches "**said storage node being connectable via a data network to an information retrieval client system having logic, responsive to data received from the storage node, for generating a node position in respect of each information item represented by the received data**" as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map), "This time includes finding the keywords to label the map, forming the WWW-ages that are used in exploring the map, and indexing the map units for keyword searches" (Page 583, Section C: Formation of the Document Map), and

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"Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map" (Page 584, Section 2: Keyword Search). The examiner further notes that **Kohonen** teaches "**said method comprising the steps of: (i) storing a plurality of information items**" as "For the largest WEBSOM map made so far we selected a database of 6,840,568 patent abstracts available in electronic form and written in English" (Page 581, Section V: The Document Map of All Electronic Patent Abstracts) and "From the raw patent abstracts we extracted the titles and the texts for further processing" (Page 581, Section A: Preprocessing). The examiner further notes that **Kohonen** teaches "**transmitting data derived from information items stored at that storage node to the client system via the data network**" as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map), "This time includes finding the keywords to label the map, forming the WWW-ages that are used in exploring the map, and indexing the map units for keyword searches" (Page 583, Section C: Formation of the Document Map), and "Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map" (Page 584, Section 2: Keyword Search).

Regarding claim 22, **Kohonen** teaches a method comprising:

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(A) said client system being connectable via a data network to one or more information item storage nodes each comprising a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network (Pages 582-584, Figures 5-6);

(B) said method comprising, responsive to data received from said indexer of a storage node, generating a node position in respect of each information item represented by said received data (Pages 582-584, Figures 5-6).

The examiner further notes that **Kohonen** teaches **“said client system being connectable via a data network to one or more information item storage nodes each comprising a store for storing a plurality of information items and an indexer for transmitting data derived from information items stored at that storage node to said client system via said data network”** as “With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB” (Page 582, Section C: Formation of the Document Map), “This time includes finding the keywords to label the map, forming the WWW-ages that are used in exploring the map, and indexing the map units for keyword searches” (Page 583, Section C: Formation of the Document Map), and “Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map” (Page 584, Section 2: Keyword Search). The examiner further notes that **Kohonen** teaches **“said method comprising, responsive to data received from said indexer of a storage node,**

generating a node position in respect of each information item represented by said received data” as “With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB” (Page 582, Section C: Formation of the Document Map), “This time includes finding the keywords to label the map, forming the WWW-ages that are used in exploring the map, and indexing the map units for keyword searches” (Page 583, Section C: Formation of the Document Map), and “Given a search description, the matching units are found from the index and the best matches are returned and displayed as circles on the map” (Page 584, Section 2: Keyword Search).

Regarding claim 23, **Kohonen** further teaches a method comprising:

A) Computer software comprising program code for carrying out a method according to any one of claims 20 to 22 (Page 582).

The examiner notes that **Kohonen** teaches “**Computer software comprising program code for carrying out a method according to any one of claims 20 to 22**” as “With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB” (Page 582, Section C: Formation of the Document Map).

Regarding claim 24, **Kohonen** further teaches a method comprising:

A) A providing medium for providing software according to claim 23 (Page 582).

The examiner notes that **Kohonen** teaches "**A providing medium for providing software according to claim 23**" as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map).

Regarding claim 25, **Kohonen** further teaches a medium comprising:

A) said medium being a storage medium (Page 582).

The examiner notes that **Kohonen** teaches "**said medium being a storage medium**" as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map).

Regarding claim 26, **Kohonen** further teaches a method comprising:

A) said medium being a transmission medium (Page 582).

The examiner notes that **Kohonen** teaches "**said medium being a transmission medium**" as "With the newest versions of our programs the whole process of computation of the document map takes about six weeks on a six-processor SGI O2000 computer...The amount of main memory required was about 800 MB" (Page 582, Section C: Formation of the Document Map).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kohonen et al.** (Article entitled "Self Organization of a Massive Document Collection") as applied to claims 1-4, 6, 8-17, and 20-26 and in view of **Hamilton et al.** (U.S. Patent 6,874,019)

15. Regarding claim 5, **Kohonen** does not explicitly teach a system comprising:
A) in which said indexer at each storage node is operable to detect an information item which is modified or newly stored at that storage node; and
B) in response to such a detection, to send a batch of data derived from that information item to said client system.

Hamilton, however, teaches "in which said indexer at each storage node is operable to detect an information item which is modified or newly stored at that storage node" as "The invention then parses the current pages source, such as the

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HTML of the current page, and begins downloading of all web pages directly linked to the current page" (Column 7, lines 45-48)" and "**in response to such a detection, to send a batch of data derived from that information item to said client system**" as "As one-hop [ages are discovered to contain the user's interest terms, they are then brought to the user's attention by any one of several methods" (Column 8, lines 27-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Hamilton's** would have allowed **Kohonen's** to provide a method predictably retrieve information pertinent to a known user's interest, as noted by **Hamilton** (Column 3, lines 49-52).

Regarding claim 7, **Kohonen** does not explicitly teach a system comprising:

A) in which one or more of said storage nodes are internet search servers.

Hamilton, however, teaches "**in which one or more of said storage nodes are internet search servers**" as "A metasearch engine does not keep its own index, but rather submits a query to multiple search engines simultaneously" (Column 2, lines 46-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Hamilton's** would have allowed **Kohonen's** to provide a method predictably retrieve information pertinent to a known user's interest, as noted by **Hamilton** (Column 3, lines 49-52).

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16. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kohonen et al.** (Article entitled "Self Organization of a Massive Document Collection") as applied to claims 1-4, 6, 8-17, and 20-26 and in view of **Derthick** (Article entitled "Interfaces for Palmtop Image Search").

17. Regarding claim 19, **Kohonen** does not explicitly teach an information retrieval client system comprising:

A) A portable data processing device comprising a client system according to claim 17.

Derthick, however, teaches "**A portable data processing device comprising a client system according to claim 17**" as "palmtop interfaces" (Page 1, Section 2, Figure 1) and "video retrieval, our current interfaces segment video into shots, and represent them with single frames" (Page 1, Section 1, Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Derthick's** would have allowed **Kohonen's** to provide a method for having an efficient multiple image/multimedia retrieval based on RSVP premises, as noted by **Derthick** (Abstract).

Regarding claim 20, **Kohonen** does not explicitly teach an information retrieval client system comprising:

A) Video acquisition and/or processing apparatus comprising a client system according to claim 17.

Derthick, however, teaches “**Video acquisition and/or processing apparatus comprising a client system according to claim 17**” as “video retrieval, our current interfaces segment video into shots; and represent them with single frames” (Page 1, Section 1, Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Derthick’s** would have allowed **Kohonen’s** to provide a method for having an efficient multiple image/multimedia retrieval based on RSVP premises, as noted by **Derthick** (Abstract).

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,636,862 issued to **Lundahl et al.** on 21 October 2003. The subject matter disclosed therein is pertinent to that of claims 1-26 (e.g., methods to use SOM mapping).

U.S. PGPUB 2003/0208485 issued to **Castellanos** on 06 November 2003. The subject matter disclosed therein is pertinent to that of claims 1-26 (e.g., methods to use SOM mapping).

U.S. Patent 7,017,186 issued to **Day** on 21 March 2006. The subject matter disclosed therein is pertinent to that of claims 1-26 (e.g., methods to use SOM mapping).

Contact Information

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mahesh Dwivedi

Patent Examiner

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December 27, 2006

Leslie Wong 


TIM VO
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Primary Examiner